MIT's Oldest and Largest Newspaper

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The Tech
Established 1881

WEATHER, p. 2

THU: 43°F | 29°F
Partly cloudy

FRI: 37°F | 21°F
Breezy

SAT: 31°F | 18°F
Mostly sunny

Volume 136, Number 36

Thursday, December 8, 2016

Cambridge fire forces 7 MIT affiliates out of their homes

Fire damaged 16 buildings, no deaths or serious injuries, six grad students have moved into Tang

By Patrick Wahl
STAFF REPORTER

A massive fire engulfed a large swath of an East Cambridge residential area Saturday, Dec. 3. The fire damaged 16 buildings around Berkshire St. and displaced over 125 residents, a number of MIT students among them.

The first alarm was dispatched Saturday afternoon at the corner of Berkshire and Vandine Streets, according to the Cambridge Fire Department Twitter feed. *The Boston Globe* reported that the fire originated in a three-decker home under renovation at 35-37 Berkshire St.

By nighttime, a total of ten alarms had been dispatched and the City of Cambridge, along with the American Red Cross, had opened a shelter for people affected by the fire at the War Memorial Recreation Center on Cambridge St. Firefighters from nearly 20 communities contributed to combating the conflagration.

Despite the enormous scale of the fire and the rapidity of its spread, only a few people were injured, and no one was killed.

The buildings damaged were mostly three-decker homes typical of Boston-area residential neighborhoods. The former Saint Patrick's Church building, which had been converted into affordable housing units, was also damaged.

Grant Falkenburg G was in his apartment a few blocks from the fire while it was spreading. Though his apartment was undamaged and he suffered only Internet outages and a brief power loss, he expressed dissatisfaction with the lack of information regarding the fire when it first started. "I was quite scared when I first found out there was a blazing fire in the neighborhood and didn't know where it was," Falkenburg wrote in an email to *The Tech*. "I feel like some kind of alert would have been helpful."

Not all MIT affiliates escaped from the fire with their residences intact.

Andrei Barbu, a postdoctoral associate in CSAIL, was volunteering in Puerto Rico at the time of the fire, but saw his apartment burning on the news. Though the house in which he lived was burned and water-damaged, the fire was stopped before it reached his apartment, and most of his belongings were salvageable. Still, the structure has been rendered uninhabitable for at least a year.

"Much worse than losing your home is discovering that you don't know where you're going to sleep tomorrow," Barbu wrote in an email to *The Tech*. "Hotels are extremely expensive, even Airbnbs aren't affordable."

MIT has helped to alleviate some of the stress of house-hunting for Barbu by allowing him to stay in a single-occupancy room in Tang Hall free of charge until he has found a new place to live.

"MIT has been extremely generous and I want to express my gratitude," Barbu wrote. "I can't describe how good it feels to have a roof over your head and a warm place to sleep after you're left with nothing but a bag full of clothes."

In total, six graduate students and their partners moved into Tang Hall and one family moved into Westgate Apartments, Matthew Bauer, director of communications for the MIT Division of Student Life, wrote in an email to *The Tech*. Some of these students have already moved from from

Cambridge Fire, Page 2

ANA MARIA VARGAS

Fire spread in East Cambridge residential area Saturday afternoon.

IN SHORT

The deadline to submit end-of-term subject evaluations is Friday, Dec. 16 at 12 p.m.

Shuttle service to Logan Airport will be available from Wednesday, Dec. 21 through Saturday, Dec. 24 at scheduled times. **Advance reservations are required**, and can be made through the Parking and Transportation Office web site. **The shuttle fee is $15.00.**

Final exams begin Friday, Dec. 16.

***The Tech* will not be publishing next week**, and will resume Jan. 5. We wish you all happy holidays and a restful winter break!

Send news and tips to *news@tech.mit.edu*.

Apple CEO Tim Cook to deliver 2017 commencement address

Cook sees a parallel between Apple, MIT: students share belief that technology should play a larger role in society

By Katherine Nazemi
EDITOR IN CHIEF

Timothy D. Cook, chief executive officer of Apple, Inc., will be the commencement speaker for the Class of 2017.

"The student body at MIT has always appreciated that technology should play a larger role in society," Cook said in an interview with *The Tech*. "I'm incredibly excited about [speaking there]."

Cook has led Apple since 2011, after Steve Jobs resigned from that position to become chairman of the board. As CEO, Cook launched Apple Watch and Apple Pay, and introduced the iPhone 7. Prior to being named CEO, Cook oversaw the company's worldwide sales and operations, and managed Apple's global supply chain.

"Mr. Cook's brilliance as a business leader, his genuineness as a human being, and his passion for issues that matter to our community make his voice one that I know will resonate deeply with our graduates," President L. Rafael Reif told MIT News.

Cook has led Apple through milestones like the sale of its billionth iPhone in July and the finalization of its largest acquisition, the headphones and music streaming service Beats, in August. In February, facing pressure from the FBI to help "unlock" an iPhone used by a terrorist who killed 14 people in San Bernardino, Calif., Cook wrote a letter to customers that came down on the side of privacy. He wrote that creating a "backdoor" in the company's products would ultimately undermine "the very freedoms and liberty our government is meant to protect."

Cook received a B.S. in industrial engineering from Auburn University in 1982, and an MBA from Duke University in 1988. In an interview with *The Tech* Dec. 7, he spoke about the role of liberal arts in technological innovation, prioritizing long-term vision, and salient human rights issues. The interview has been edited for clarity.

***The Tech:*Thank you for making this time to speak with me. We're really looking forward to welcoming you at commencement. The first thing I wanted to ask is, why choose to speak at MIT? What interested you about it?**

Tim Cook: MIT has always intrigued me because I see a lot of parallels between Apple and MIT. The student body at MIT has always appreciated that technology should play a larger role in society, that it's not just about technology. It's about the intersection of technology and liberal arts that's really great for our country. That parallel endeared me to MIT and I was quite honored to be asked to do it, and I'm incredibly excited about doing it.

***The Tech*: What do you see as the role of liberal arts in tech innovation?**

Cook: Apple has always stood at the intersection of the liberal arts and technology. We don't think technology for technology's sake advances humanity. It's the intersection of the two things that really moves the country forward and allows not just us, but other people, to change the world for the better.

People work at Apple because they want to change the world. They want to make the world's best products that really enrich people's lives. They come to work every day and focus on how to do that. That's what has always been the driving force of Apple.

***The Tech*: That sounds like a very unique culture. What is the role of a community's culture in producing great ideas? What kind of culture do you strive to create at Apple?**

Commencement, Page 2

MIT vows to support students if DACA axed

Will provide financial help and legal counsel for undocumented students

By Olivia Brode-Roger and Katherine Nazemi
STAFF REPORTERS

Undocumented students would be able to continue their studies at MIT even if DACA were repealed, Chancellor Cynthia Barnhart PhD '88 said at a UA Council meeting on Nov. 30.

Barnhart affirmed MIT's dedication to supporting its undocumented students in light of potential changes to U.S. immigration policy under the Trump administration. A summary was also emailed to all students the following day.

Although little is known about Trump's future policies, he has repeatedly promised to repeal the Deferred Action for Childhood Arrivals. DACA enables undocumented immigrants to become eligible for a work permit if they arrived in the U.S. before age 16 and before 2007. Since DACA is an executive order, it would only take another to repeal it. "We are actively monitoring the situa-

Undocumented, Page 2

FILTER BUBBLES?
Media is not to blame. **OPINION, p. 4**

STARBOY
The Weeknd dims. **ARTS, p. 8**

DTERGENT
Wash yoself. **PHOTO, p. 14**

ORIGIN STORY
President Reif. **CAMPUS LIFE, p. 5**

TAEKWONDO
Kicking it at finals. **SPORTS, p. 15**

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WEATHER

Wintry cold looms for weekend

By Vince Agard
STAFF METEOROLOGIST

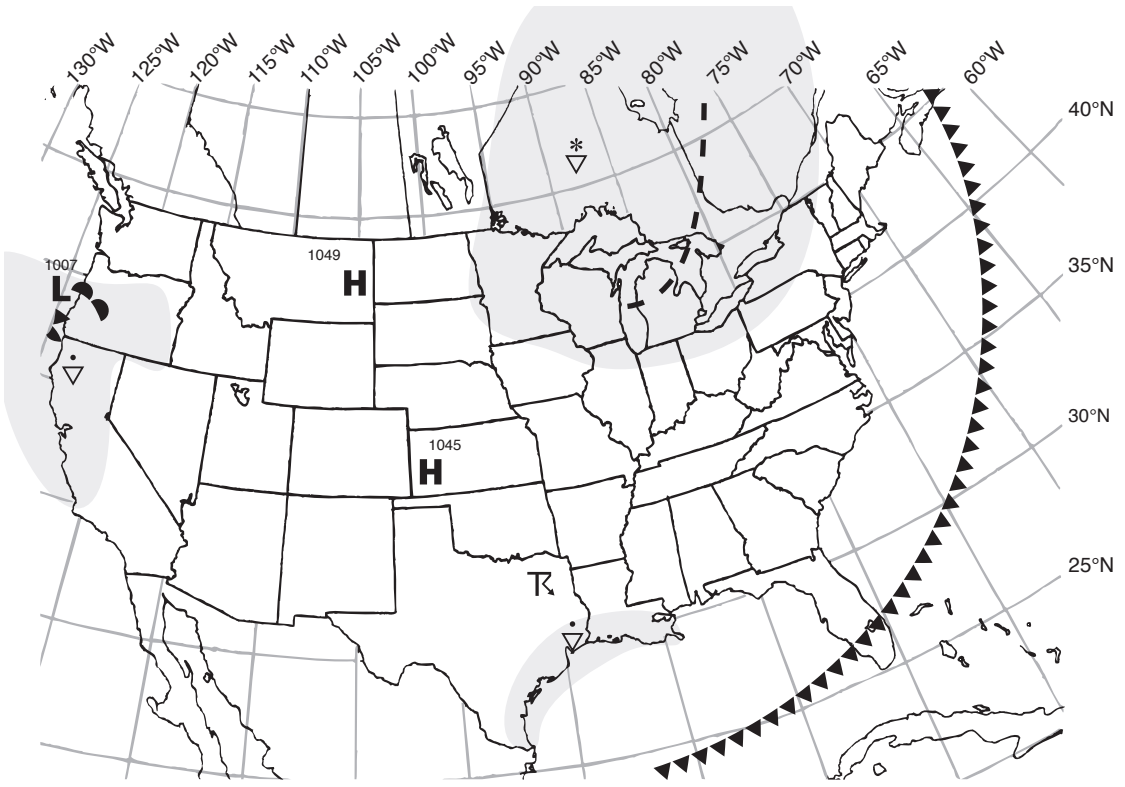
An Arctic air mass will plunge into the Northeastern United States this weekend, causing temperatures to plummet significantly below normal. The cold air will begin to make its way into our region tonight, as a stiff northwesterly breeze develops on the backside of a low pressure system currently passing eastward through Quebec. Cold air advection will continue through the day tomorrow, with the wintry wind transporting frigid Canadian air directly toward the Institute. By Saturday, the cold air mass will be firmly in place, causing both high and low temperatures to be around 15 degrees Fahrenheit lower than normal for this time of year.

The weekend will wrap up with a chance of snow on Sunday night and/or Monday morning. Numerical weather prediction models currently show New England being overspread by snow showers during this time frame as a low pressure system develops over the region. However,

it is too soon to predict with confidence exactly how much snow will fall.

Extended Forecast

Today: Partly cloudy, high 43°F (6°C). Winds W at 5-10 mph.
Tonight: Partly cloudy and becoming breezy, low 29°F (-2°C). Winds W at 10-15 mph.
Tomorrow: Mostly sunny and breezy, high 37°F (3°C). Winds NW at 15-20 mph.
Saturday: Mostly sunny, highs in the low 30s °F (0°C).
Sunday: A chance of snow showers beginning in the afternoon, highs in the low 30s °F (0°C).



Situation for Noon Eastern Time, Thursday, December 8, 2016

Funds provide relief

Mayor's initiative reaches $500K goal

Cambridge Fire, from Page 1

campus housing back into their old residences or into other accommodations, according to Bauer.

Ana Maria Vargas '19 saw the smoke from her room in McCormick Hall at around 2:30 p.m. on Saturday and decided to investigate. When she arrived at the scene of the fire, police had already cordoned off the area. She saw fire engines arriving and firefighters setting up their equipment, as well as people standing in the street in pajamas clutching pets or belongings.

"There was generally an air of tension and worry," Vargas said in an interview with *The Tech*. "I felt so helpless. ... If you're a firefighter, there's something you can do. ... As a bystander, all you can do is watch and get out of the way."

Soon after the fire, Cambridge Mayor E. Denise Simmons set up a relief fund to help affected residents. The online portion of the fund, hosted on crowdfunding website GoFundMe, reached its $500,000 goal in less than three days.

In an email to the MIT community, Provost Martin Schmidt, Chancellor Cynthia Barnhart, and Executive Vice President and Treasurer Israel Ruiz encouraged students and faculty to contribute to the fund. The email mentioned that MIT would make an "institutional donation," though it did not specify the amount.

Sanctuary campus?

General counsel explores legal tools

Undocumented, from Page 1

tion," Barnhart said.

For the fewer than 20 undocumented MIT students, a DACA repeal would mean losing their jobs and with it, a valuable source of income. Barnhart reiterated multiple times that, in this scenario, the administration would work "to make students whole" by providing them with any necessary financial help.

In addition, Barnhart also made it clear that MIT would provide all legal help necessary to keep students at MIT.

All have been contacted by MIT following the election. The students, Barnhart said, have expressed a wide range of opinions: "some want MIT to take a more activist approach, others don't."

The biggest deterrent to any MIT action is the potential loss of federal funding, which covers nearly two-thirds of MIT's research expenditure. However, Barnhart asserted that the MIT administration doing "everything possible within the bounds of what's legal to support the students," including continuing to disregard immigration status during the admission process.

For policies beyond a DACA repeal, uncertainty reigns. A working group, chaired by history professor Christopher Capozzola, was created to help formulate how MIT should respond to various scenarios. When the time comes, the working group and MIT's general counsel will coordinate with the senior team to enact MIT's response.

The general counsel is also coordinating with peer institutions to explore various legal tools and their consequences, notably the option of making MIT a "sanctuary campus." Various student group leaders, including La Union Chicana por Aztlan president Yazmin Guzman '18, have advocated for that option.

Guzman emphasized the need for MIT to foster an inclusive and accepting community, expressing frustration at how long it is taking the administration to enact last semester's BSU recommendations.

"Overall, the things Trump can do as president are really scary for immigrants both documented and undocumented," Guzman said. "Speaking for myself, I think MIT should speak out against Trump and assert themselves even more."

However, Guzman was pleasantly surprised at MIT's plans: "there are a lot of gears moving around!"

Guzman's sentiments reflect UA President Sophia Liu's '17 frustration about the lack of "clear feedback channels" between students and administrators which, she said, leads to duplicated efforts and unpleasant surprises. Liu also emphasized that historically, the blame has gone both ways.

David Elwell, director of MIT's International Students Office, has been fielding concerns since the election from students who worry that their studies could be cut short if a Trump administration enacted changes to immigration policy.

Elwell said that the Institute should be "vigilant and vocal" about the negative impact such policies would have "on MIT, on higher education, and the U.S. in general."

'Magical' culture of ideas

Cook discusses collaboration and diversity

Commencement, from Page 1

Cook: The culture at Apple is very much a change-the-world kind of culture. It's a culture that deeply believes in a fairly simple North Star, and that North Star is creating the best products in the world that enrich people's lives.

There are lots of things we could work on, and there are always more ideas than we could possibly work on. But the ones we try to choose are the ones that are the best, and make a significant contribution to society. Focus is a part of our culture: we say 'no' to many, many more things than we say 'yes' to. We say no to really good ideas because we know we can only do a few things really, really great.

Our culture is very focused on caring; people really care about the details here. They know that innovation really comes from people caring deeply about things, and thinking at a much deeper level about a problem that we're trying to address or a product we're trying to create. That's the Apple culture.

It's non-bureaucratic, very collaborative. We strongly believe in collaboration because we think the best work comes from having a diverse culture, bringing people together that look at issues differently, see things through a different lens, have a different life experience. Then you put them together and you provide an environment where people can collaborate, and bounce ideas off one another, and watch the ideas grow and become bigger than any single individual could ever do. That's what happens here, and it's really magical.

The Tech: **How do you choose what problems to focus on?**

Cook: That's a good question. For us, we try to select things where we can control the primary technology. We do things that require hardware, software, and services, because we think the real magic occurs at the intersection of those. We have great debates internally about what things to work on and not, because we know we can only do a few things well.

We always pick things that really will change things, that empower people to change the world. We provide tools for people that do that. We're always looking at how something will be used, and if it will have a broader purpose and benefit to society.

The Tech: **In that process, how do you balance long term and short term outcomes? What do you do to keep sight of the bigger picture?**

Cook: The real answer to that is: we don't focus on the short term. When we decide to enter a new product category or create a new product, we're thinking long term about it. We're very willing to sacrifice short term results for the benefit of the long term.

We make sure that we don't run Apple on a 90-day clock. I realize some companies do that and they think that's good, but we're investing in things that will see daylight many years from now. It's very important that we take the noise out of our thinking, and think about the long-term benefit. That allows us to make investments that others would not, and create products, frankly, that others could not.

The Tech: **On a more personal level, when you were graduating from college, what did you think you were going to be doing next?**

Cook: [Laughs] Something very different than what occurred. When I was a graduate student, I had a class on Corporate Strategy — I was in business school at Duke at the time. As part of that corporate strategy class, the instructor asked us to prepare a personal strategy — a fairly detailed one that talked about what you were going to personally accomplish in life and your career and so forth.

A few years ago, I found that document, and at the time that I found it, it was 25 years old. And I looked at it, and virtually nothing had happened that I'd listed on it.

I think the lesson there is — and I've really learned this at Apple and I credit Steve [Jobs] being a great mentor here — the joy of life is really in the journey. If you fixate too much on the specifics, you don't tend to enjoy the journey along the way. You say, "I'll get to that after this happens," or "I'm going to feel great after I graduate," or "I'm going to do that after I get my first job." You keep kicking the can down the road, and life passes by.

I've learned over the course of the last couple of decades to enjoy the journey, and not get too fixated on the specifics.

The Tech: **You've said that "every generation has the responsibility to enlarge the meaning of human rights." What do you see as the human rights challenge of our generation?**

Cook: I think there are many. The ones that are very clear today range from religious freedoms, to LGBT rights, to gender equality. Even though the U.S. has made improvements on racial human rights, there are clearly racial injustices in the world.

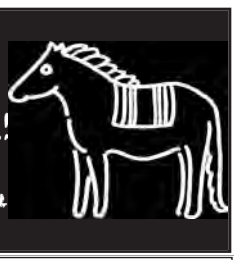
I think if you sort of look at it from a macro point of view, there are issues everywhere, including in this country and in many countries around the world. People may talk about the issues themselves a bit differently, but they're the same issues of a decade ago, and two decades ago, and five decades ago. There's progress, so I'm not saying the magnitude of the issue is the same, but I think it's about each generation moving forward and enlarging the definition of human rights for people.

You look at the U.S. and it shows up in many different ways. It's changing the way people treat each other, because at the end of the day, if you boil it down, it's about human dignity and human respect, and trying to eradicate the view that people are inferior because of something in their makeup or composition. I think it's incumbent on all of us to advance it.

I wouldn't pin it to a certain thing. I see issues everywhere, although, on a positive note, I see progress in many places as well. We have a lot further to go here. Not only in this country, but even more so in many countries around the world.

Cook will address the graduating class at MIT's 140th commencement on Friday, June 9.

Can you beat this drawing?
Join Illustrators at The Tech!
E-mail join@tech.mit.edu



Solution to Paradise

from page 12

3	8	7	2	5	6	1	4	9
9	5	4	8	2	3	7	1	6
2	7	6	1	4	5	9	3	8
6	2	1	5	8	9	4	7	3
7	3	2	6	9	1	5	8	4
8	4	3	7	1	2	6	9	5
1	6	5	9	3	4	8	2	7
4	9	8	3	6	7	2	5	1
5	1	9	4	7	8	3	6	2

Solution to Finals

from page 11

4	2	9	6	3	7	1	8	5
8	6	4	1	7	2	5	3	9
1	8	6	3	9	4	7	5	2
5	3	1	7	4	8	2	9	6
7	5	3	9	6	1	4	2	8
3	1	8	5	2	6	9	7	4
6	4	2	8	5	9	3	1	7
9	7	5	2	8	3	6	4	1
2	9	7	4	1	5	8	6	3

Solution to Purgatory

from page 10

4	5	3	1	2	6
5	6	4	2	3	1
6	1	5	3	4	2
2	3	1	5	6	4
1	2	6	4	5	3
3	4	2	6	1	5

Solution to Inferno

from page 10

8	2	3	9	4	1	5	7	6
5	4	7	8	6	2	1	9	3
1	9	6	7	5	3	8	4	2
6	7	8	5	9	4	2	3	1
4	5	2	3	1	8	9	6	7
9	3	1	2	7	6	4	5	8
3	1	5	4	8	7	6	2	9
2	6	9	1	3	5	7	8	4
7	8	4	6	2	9	3	1	5

Winners of Hult Prize qualifiers present evaporative toilets for refugee camps

A team of five students won the Hult Prize MIT qualifiers last night with a prototype for evaporative toilets, aiming to tackle the pressing issue of sanitation in refugee camps. Seven other MIT teams also presented at the pitching contest, which served as quarterfinals for the Hult Prize, the world's largest student competition for social good.

The Hult Prize is an international competition that aims to solve some of the world's most complex issues in innovative ways. This is the seventh year in a row that the competition has been run. The current edition is titled Refugees: Reawakening Human Potential, and its stated mission is to "restore the rights and dignity of 10 million refugees by 2022."

The team calls itself Change: WATER! and will now advance to the Regional Finals.

The teams that will participate in the regional finals are selected through two different processes. They can either participate in the quarterfinal pitches held by 100 campuses around the world, as Change: WATER! did, or they can choose to submit an online application. Results of online applications will be revealed in January.

Overall, more than 20,000 applicants are expected this year. Regional finals will be held in Boston, San Francisco, London, Dubai, and Shanghai. The winners will spend the summer at the Hult Prize Accelerator, a startup incubator. They will be mentored to develop their ideas and prototypes further, in preparation for the September finale.

The eight teams participating in the MIT qualifiers all had different propositions to respond to the challenge of the 2017 edition.

The Dot Learn team, which won second prize, proposed to solve the lack of access to education refugee children face by prototyping a new learning interface. The Durablanket team placed third and prototyped a blanket that could turn into a backpack when not used.

The problem of communication between refugees was addressed by teams like Salam, which developed a messaging app, and Tarjimly, which created a beta version of a new translation interface. The Nesterly team prototyped an interface to help refugees find their way around their new country, and the Market team tried to find ways to create business incentives in refugee camps.

The eight teams who took part in last night's quarterfinals were remarkable in their diversity. They were composed of undergraduates, MBA students, and graduates. The Durablanket team was composed of three freshmen.

Students had very different backgrounds, coming from the Department of Electrical Engineering and Computer Science, the Political Science Department, and the Sloan School of Management. The competition's organizing team was comprised entirely of Sloan students.

Change: WATER! has already raised $120,000 and will compete to win the $1,000,000 grand prize, which will allow them to realize their project in the world.

— Marie Patino

Solution to Up and Up and Up

from page 10

S	T	A	R	E	■	S	L	A	T	■	N	A	B	S
C	U	T	E	R	■	H	O	B	O	■	A	L	M	A
A	B	O	V	E	G	R	O	U	N	D	P	O	O	L
M	E	M	O	■	O	U	S	T	■	E	L	E	C	T
■	■	■	L	E	D	G	E	■	A	L	E	■	■	■
C	A	N	V	A	S	■	■	P	U	L	S	A	T	E
O	B	O	E	S	■	C	H	I	N	■	■	R	E	D
R	A	I	S	E	D	L	E	T	T	E	R	I	N	G
E	S	S	■	■	I	O	W	A	■	T	E	A	S	E
S	H	E	A	R	E	D	■	■	S	A	S	S	E	D
■	■	■	N	U	T	■	R	O	U	S	T	■	■	■
T	R	O	T	S	■	C	A	P	E	■	S	P	A	N
H	I	G	H	T	E	M	P	E	R	A	T	U	R	E
I	D	L	E	■	V	O	I	D	■	S	O	L	E	S
S	E	E	M	■	E	N	D	S	■	S	P	L	A	T

Solution to Veggie Varieties

from page 12

H	I	L	O	■	I	P	A	D	■	P	O	S	S	E
A	N	O	N	■	N	I	N	E	■	U	S	H	E	R
S	A	G	E	■	F	E	T	A	■	P	L	A	T	E
T	W	O	P	E	A	S	I	N	A	P	O	D	■	■
Y	E	S	M	A	N	■	■	S	S	E	■	■	■	■
■	■	■	S	T	A	R	■	A	T	A	R	U	N	■
A	R	T	S	Y	■	J	A	M	B	■	L	I	K	E
C	O	O	L	A	S	A	C	U	C	U	M	B	E	R
E	U	R	O	■	O	R	E	S	■	L	A	S	S	O
S	T	E	P	I	N	■	R	E	N	T	■	■	■	■
■	■	■	G	I	S	■	■	O	R	A	C	L	E	■
■	C	O	U	C	H	P	O	T	A	T	O	E	S	■
S	T	O	R	E	■	E	E	N	Y	■	L	A	T	S
H	O	P	E	S	■	L	A	C	E	■	A	C	M	E
Y	O	Y	O	S	■	F	R	E	T	■	S	H	E	S

pkg center
Projects for Peace
THE VISION OF KATHRYN W. DAVIS
Feb 6
Mon, 12 pm
Application deadline
Undergrads! Apply for a $10,000 fellowship to implement a peace-building project this summer!
Apply: http://bit.ly/davis-peace
Questions? Email hynd@mit.edu

SidiBou
Dinner
A TUNISIAN CULTURAL NIGHT
Saturday 12/10, 7-10 pm
@ the Student Center
(W20-491)
Free and open to all of the MIT community
Come meet a Tunisian, try a new dish
and learn about the Tunisian Revolution
through a gallery of powerful photographs
This event is organized by Tunisia@MIT
and sponsored by ARCADE
This space donated by The Tech

OPINION OPINION OPINION

OFF THE BEATEN PATH

The power of inspiration

The road from Caracas to Cambridge

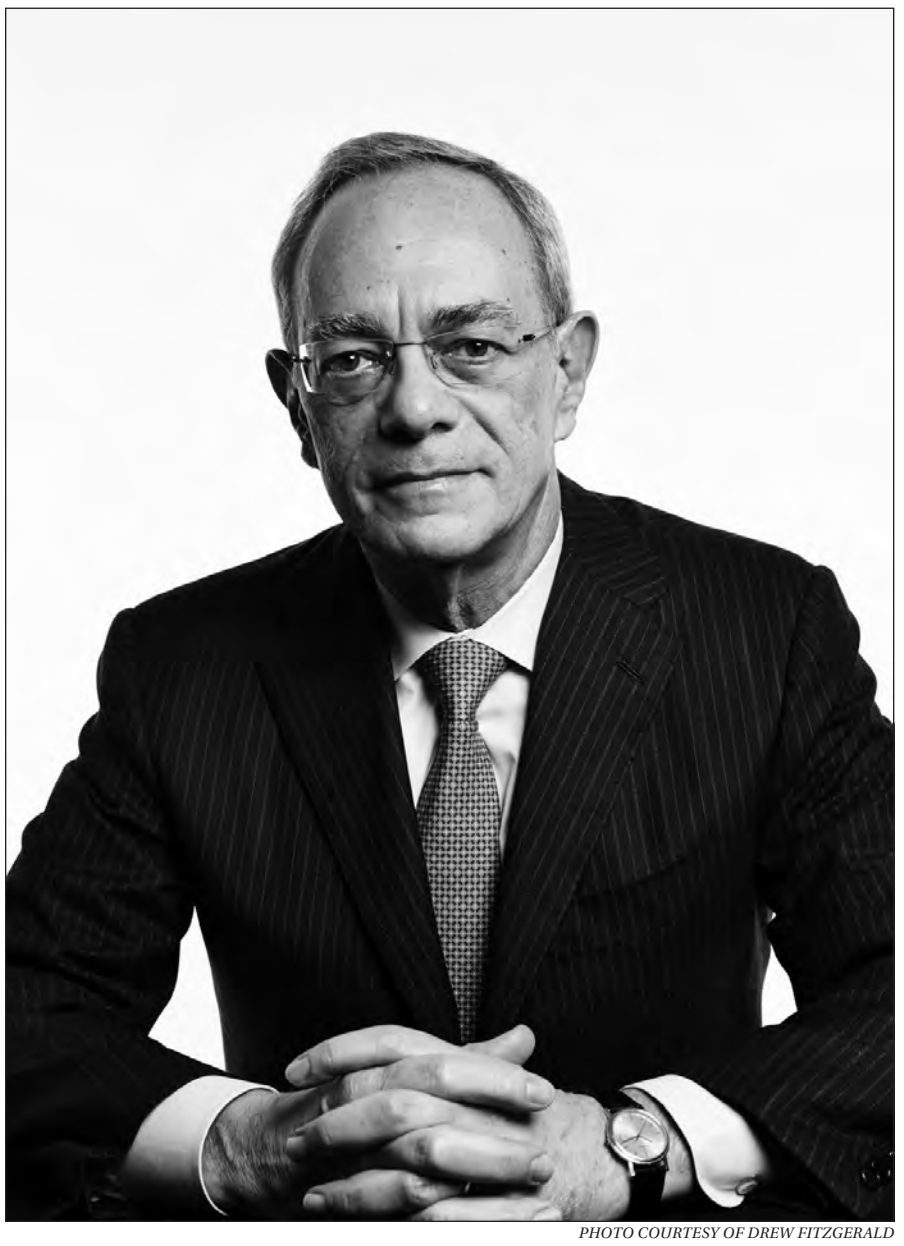


PHOTO COURTESY OF DREW FITZGERALD

President L. Rafael Reif.

By L. Rafael Reif

I grew up in Caracas, Venezuela, the youngest of four brothers: Elias, Benjamin, Isaac and me. When Elias was a baby, my parents fled from Eastern Europe in the late 1930s, just before World War II. They first took refuge in Ecuador, on the west coast of South America. Benjamin and Isaac were born there. Eventually, in search of work, my parents moved to Venezuela, on the Caribbean coast, where I was born.

When my mother and father arrived in South America, they did not know the language or understand the culture. By the time I came along, at home we spoke Yiddish and Spanish. Neither of my parents had had the opportunity for more than a very simple education. But they were smart and caring people of great principle and integrity.

I saw my father do all sorts of humble jobs to make a living for our family. To this day, each time I see a humble person in some menial job, I see a smart person like my parents who did not have the opportunity for an education. Elias and Benjamin also had to quit their education right after elementary school to help my father support our family.

When I was little, almost no one I knew went to high school. But somehow, my third brother, Isaac, decided that he wanted to, and by then the family did not need him to work, so he was allowed to go to a public high school. In poor neighborhoods, most people do what others do, and to this day I do not know what inspired him to go to high school. But he did. By the time I came along, Isaac had already gone on to college, and, by his example, he had also inspired Benjamin to get his high school diploma by going to night school. So, for me — with these two role models — continuing my education seemed like the obvious choice, and my family could afford for me to go to high school instead of working like Elias and Benjamin did.

By the time I was finishing high school, Isaac was in the U.S. getting a PhD, and Benjamin had moved on to college — so again, for me the path to college was obvious. I liked the people my brothers got to spend time with at their universities, and I thought that if I could get educated as an engineer, it could lead to a steady job. I enrolled first at Universidad Central de Venezuela in Caracas. Unfortunately, after two years, the government shut the university down because of student riots. I waited another two years for the university to reopen, earning my keep by tutoring high school students. Eventually, Elias encouraged me to transfer to Universidad de Carabobo in Valencia, a city where he was living at the time. I graduated there with a degree in electrical engineering in 1973.

To this day, each time I see a humble person in some menial job, I see a smart person like my parents who did not have the opportunity for an education.

I started to think then that maybe I could have a career teaching at a local university. So, I decided to get a PhD in the United States — just like Isaac. I spoke very little English. But somehow I managed to get into a PhD program in electrical engineering at Stanford University. Living in California was a whole new world. I had never lived outside of Venezuela, and it was hard to leave my family and my friends behind. My plan all along was to finish my education and return to Venezuela to pursue an academic career.

After I completed my PhD, I stayed on at Stanford for a year to do research. It was May 1979, and I had told everyone that I was moving back to Venezuela that fall. I was, in fact, already packing.

While attending a conference, I bumped into a colleague who had left Stanford for MIT. He said MIT was looking for a faculty member in my field: Would I be interested? I said I was flattered, but I was noncommittal. (After all, I had seen pictures of the great Massachusetts Blizzard of 1978. I wanted to go back to the warmth of Venezuela, in every sense.)

Then another MIT professor, the chair of the Faculty Search Committee, started recruiting me hard. He would call almost every other night at home, trying to convince me to interview. In one of those phone conversations he asked, "What are the chances that if you came to interview at MIT, you might like it?" I didn't want to say "Zero" — I didn't want to offend him. So, I said, "Five percent." He said, "Five percent is not zero — why don't you come?"

By this time, my brother Benjamin was doing his PhD at MIT, so I thought I could visit him and interview. So, I came, I spent a day here, and I realized — "This is it!"

MIT made me an offer, and I accepted right away. We packed the car with all our belongings and drove all the way across the country. It took about three weeks, most of it camping. My moving expenses were a bunch of receipts for campsites.

When I finally got here, MIT became my home — and I never left. I loved the people, the values and the mission. It was like no place else that I had ever been. I still feel the same way.

When I look back on my experience and I think about my parents, I feel strongly about how important it is to be humble and respectful to those who have not been fortunate enough to have the same opportunities I did.

Out of four brothers, three of us ended up getting PhDs. That is the power of inspiration, of having a role model. If it weren't for my brother Isaac, I would not have been able to fulfill the dreams my parents had for us. He was my role model. I did what he did. He inspired me and showed me the way. And he did the same for Benjamin — his older brother, and another role model for me. And the three of us did what we did under the inspiration of our oldest brother, Elias, a man with impeccable integrity, who helped support our parents and supported us morally, ethically, and financially in every way he could.

"MIT made me an offer, and I accepted right away. We packed the car with all our belongings and drove all the way across the country. It took about three weeks, most of it camping. My moving expenses were a bunch of receipts for campsites."

By the time I joined MIT as a faculty member, Benjamin was finishing his PhD here, and he escorted me to my faculty office on my first day. A year and a half later, I attended his PhD Commencement at MIT.

It is all still very hard to believe.

L. Rafael Reif is the president of MIT.

Off the Beaten Path is a series that shares stories from members of the MIT community from working-class backgrounds. Comments, questions, and submissions are welcome at cl@tech.mit.edu.

DID YOUR MIT ESSAYS GET YOU IN?

The Tech is collecting successful application essays (**hint: yours!**).

Email your pieces to *cl@the-tech.mit.edu*!

OUR STORIES

Kyla Truman

Our Stories is a series by Natasha Joglekar, assisted by Andy Trattner, with photography provided by Prof. Daniel Jackson. Each story is a first person narrative of personal struggle and strength.

My parents have struggled with substance abuse for as long as I can remember. My mom had me when she was 19. Both she and my dad tried to get clean for a little bit, but were largely unsuccessful. Pretty much my entire childhood, I didn't see much of my parents. My dad and mom split up really early. My mom shuffled around. I am told that I was babysat a lot.

When I was five, my mom remarried and she had my little sister, Kyra. At that time, things were okay. A lot of times I took care of my sister. I would make us meals, which was often PB&J. When I had school, I would wake myself up in the morning and get ready and beg my step-dad to drive me to school. Often times he didn't.

Every time the cops came, my mom, sister and I would hide in our garage and be very quiet. I didn't understand what was going on.

After my mom divorced my sister's dad, we hopped around, staying with her friends and boyfriends. Things started to get pretty bad, as far as her addiction went. In particular, one boyfriend we lived with was definitely selling drugs out of the house. No one was watching my sister or me, and my mom and her boyfriend would be in a bedroom with the door closed all day, with people going in and out. When you are that young, you don't really see it as child neglect; you just deal with it.

My sister and I are very close. I tried to do everything I could to make her life a little easier. One Christmas Eve, my mom left, and I stayed up for hours waiting for her to come back and decorate the tree. My sister fell asleep, so I put her to bed, and afterward I decorated the tree myself and tried to find things of my own and put my sister's name on it, as a makeshift present.

We started to get the cops called on our house. Every time the cops came, my mom, sister and I would hide in our garage and be very quiet. I didn't understand what was going on, but my mom said if the cops caught us, they were going to take us away.

One day, when I was in the fourth grade, I was called to the office, and I was confused because I never got called to the office for behavior reasons. I went to the office and nervously stood outside the door. It was Child Protection Services (CPS). CPS checked me out from the school, and I got in the back of their car, and they drove for a really long time. They never told me where we were going or why, it was just really quiet. Our destination turned out to be a receiving home, which is where all the kids going into foster care go first, so they can check for signs of child abuse or drugs in our system. I was there for a while before my sister showed up. My sister was in tears and wearing one shoe. I found out later it was because the cops arrived at our house, while she was playing dress up in my shoes, and there was a struggle in which the shoe got left behind. The little things stick out a lot.

We bounced between four different foster homes. Foster care is not a great place. There are families out there that genuinely care for the kids they take in, but there are also people who do the bare minimum to take care of kids and profit off the stipend. We, unfortunately, got a lot of the latter. The first home we were in, my sister was sexually abused by the foster parent's biological child. So we ended up getting moved pretty quickly. At the next foster home, it was a lot of neglect. We would come home, and we would get a bowl of ramen for dinner, and then be in our room the rest of the night. We were only allowed to come out to use the bathroom.

We were really fortunate that throughout this, we stayed together. Typically siblings in foster care get split up, and I honestly can't imagine where we would be at now if we had. We moved a few more times, and the last foster home was close to my maternal grandparents. It was great that we got to have visits with my grandparents, and throughout this whole process, they had been fighting for custody, and eventually we were able to move in with them.

I was in sixth grade; it was a very big transition. They were much older and hadn't parented in a very long time. Also, it felt like they had failed with their own kids, so they decided to be very strict with my sister and I. It was astronomically better than foster care, and we were very well taken care of. However, they would say things — "We don't want you to end up like your mother" — or would bring up that they spent a lot of money on trying to get custody of us. It felt like they loved us and wanted us there, but when they said things like that, it made us question whether we were worth it.

We fought a lot because they didn't like me to be involved with things outside of school. I was highly academically driven and wanted to be involved. I started researching what it takes to go to college in 8th grade. I knew I was smart and could do it, but I realized that being involved in extracurriculars is really important. I would look around at my peers whose parents were pushing them to get involved while I was fighting to be allowed to. I did what I could, and ended up applying to college through QuestBridge, which is for high-achieving, low-income high school students, to Stanford and MIT, and then applied to around 20 other schools. I knew I just needed to get in somewhere, so it was worth it for me to do all the applications. I was sitting down to dinner on my 18th birthday when I got the acceptance email from MIT. I couldn't believe it was real.

As soon as I was 18, I moved out of my grandparent's house, which was a tough decision to leave my sister, but she was well cared for there. I moved out because it was becoming increasingly difficult for me to be involved, and my mental health was suffering. I rented a room from an older woman that I took care of and also made a little bit of money.

In the spring, I got a financial stipend to come to CPW. It was surreal. I met my freshman year roommate, and she is still my best friend. I loved MIT, but I did not submit my acceptance until 10 minutes before it was due.

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Kyla Truman.

I was nervous, my dad was still in and out of prison, but my mom had recently gone to a rehab program and got really involved in the church. She got a job at The Salvation Army, and started to get her life together. My mom wasn't a parental figure anymore, but I still wanted to be around her. It was tough to think about moving across the country while my relationship with my mom was just starting to come back to life.

I have been financially independent since I moved out of my grandparents' house. My sister now lives with my mom who met a guy at a recovery program meeting. They have been married for 4 years, and they just had a baby and are doing great. I love visiting them.

It sort of seems that once you get into MIT there is a happy ending, but it is hard not having financial or emotional support from family.

My childhood shaped me into an independent and ambitious person. I feel very driven to work hard and pursue whatever it takes to make my life better and break the cycle of drug abuse, alcoholism, and poverty. This year, I helped start an organization on campus called CASE, to help address socioeconomic issues and intersectionality on campus. It sort of seems that once you get into MIT there is a happy ending, but it is hard not having financial or emotional support from family. At first I struggled socially, because I didn't feel like I totally fit in here. I felt like my friends couldn't relate to me. Starting CASE is my way of helping people talk about these issues and feel less alone.

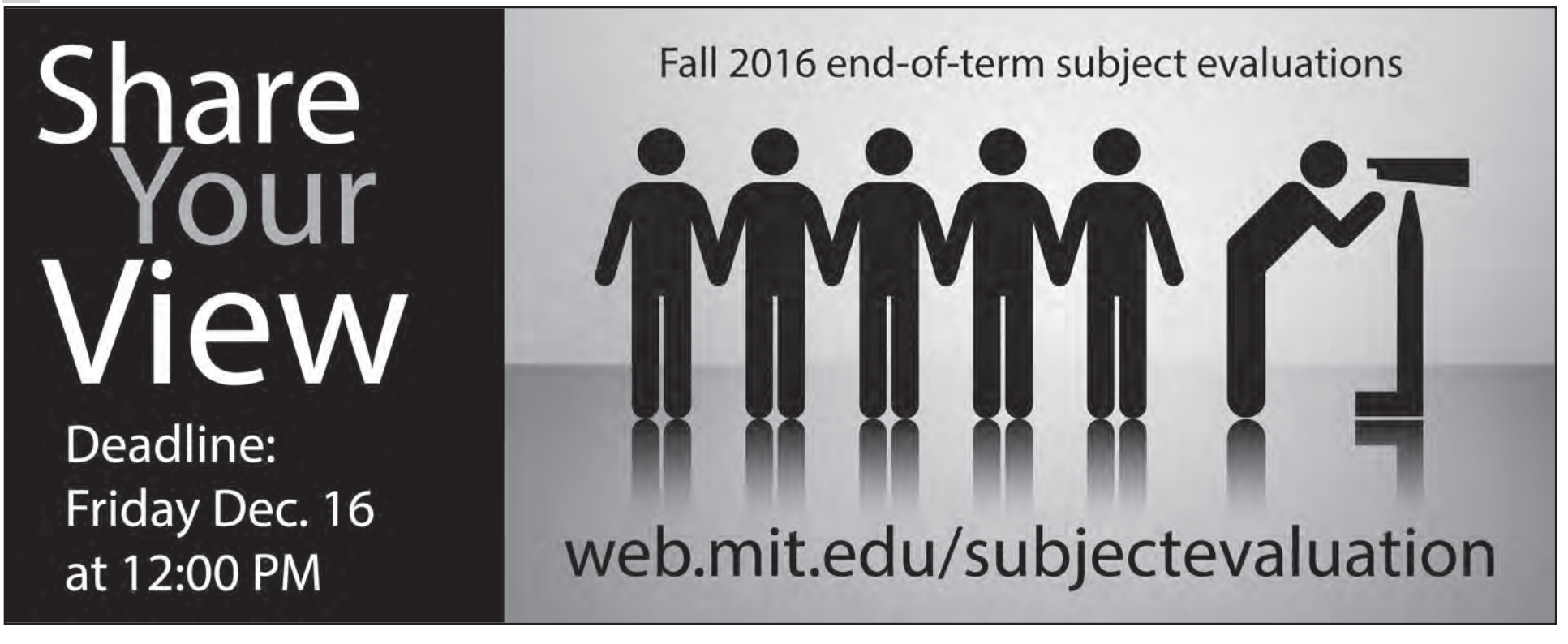
After graduation, I am going to work, but eventually I am hoping to go to medical school and study psychiatry. Ultimately, I want to start a nonprofit to provide mental health support, and job/college support to kids aging out of the foster system. It is a huge need. Most kids in the foster kid system don't do well in school because there is no one encouraging them to and there are no resources. Typically kids age out of foster care and maybe they graduate high school, but mostly end up in low-paying jobs, and end up falling into the same cycle of drug and alcohol abuse. Things like depression, anxiety, and even PTSD are very prevalent. We are neglected and abused, and don't feel worthy of attention or love from those who take care of us. Kids and their issues are overlooked in foster care, and my plan is to try and change that.

Kyla Truman is a member of the Class of 2017.

There are many ways to find help. Members of the MIT community can access support resources at resources.mit.edu/support. *To access support through MIT Medical's Mental Health & Counseling Service, please call (617) 253-2916 or visit medical.mit.edu.*

If you have a story you'd like to share, contact ourstories@mit.edu

Photo copyright Daniel Jackson, 2016.



Facebook endeavors to take responsibility and put out online fires in Israeli-Palestinian conflict

They 'cannot sit in their ivory tower' and 'let the blood spill in the streets of Jerusalem'

By Peter Baker
NEW YORK TIMES

JERUSALEM — When fires raged across Israel last month, Anas Abudaabes began to type on his laptop. What came out would land him behind bars and ignite a debate over whether he had tried to fan the flames of hatred, in this case literally.

On his Facebook page, Abudaabes wrote that "we should call our thugs to do what is necessary," noting that "dry grass is faster to burn." Arabs should pray for lightning and strong winds, he wrote, while those in Jerusalem and Haifa, where blazes were most intense, should "pour gas" on what was being called the "fire intifada."

Abudaabes, 29, a businessman, insisted it was satire and was released after nearly four days. But he was hardly the first arrested in Israel for seeming to encourage mayhem on Facebook, nor will he be the last. Facebook has become the battleground in a global struggle between free speech and incitement, and in few places is that more pronounced than in Israel, the West Bank and Gaza.

Facebook and other social media companies announced this week that they would team up to better track and reduce online terrorist propaganda. But European leaders were unsatisfied, arguing that the companies have been slow to review and take down hateful posts, and they pressed for more action.

In this part of the world, the debate is not just theoretical. Terrorism is an everyday reality, and the role that Facebook and other social media sites may play in inspiring it generates deep emotion. Israel has pushed to combat online provocation that it links to bloodshed. Palestinians consider a crackdown on Facebook posts just another tool of repression by an occupying power.

"We have similar conversations around the world about the problem of online hate speech," said Simon Milner, Facebook's policy director for Britain, the Middle East and Africa. "But we do absolutely see in Israel and the Palestinian territory that this is one of the central issues in society even more in this region than elsewhere."

For Facebook, the dominant social media platform in this region, the issue has taken on more urgency in the 14 months since the beginning of a wave of stabbings and vehicular assaults by Palestinians against Israelis. A company proficient at technology finds itself whipsawed by forces of history that have defied political, diplomatic and religious leaders since long before Mark Zuckerberg, Facebook's chief executive, was born.

No matter what it does, Facebook invariably seems to offend one side or the other. Israel complains about incitement? Facebook takes down posts. Palestinian journalists complain about being muzzled? Facebook lifts the suspension of their accounts.

"We realize we've got a lot to learn," Milner said, "and we've learned a lot in the last few years."

It is not hard to find provocative posts that straddle or even cross the line into advocacy of violence.

One post shortly after the latest violence began showed an injured Israeli soldier and a militant holding a knife that displayed an Arabic message: "All means are permissible in jihad as long as they bring victory for religion. Sword; or explosion; or bullet; and for them to challenge the knife."

Another posted the same day by a leader of Hamas, the Palestinian group designated a terrorist organization by Israel and the United States, glorified knife attacks.

"Facebook has to take responsibility," said Nitsana Darshan-Leitner, the founder of the Shurat HaDin Israel Law Center, who collected those examples and others. "They cannot sit in their ivory tower in Palo Alto and let the blood spill here in the streets of Jerusalem."

Darshan-Leitner filed a $1 billion lawsuit against Facebook in federal court in New York this fall, claiming that it provides material aid to Hamas. The suit combined a previous claim on behalf of 20,000 Israelis blaming incitement on Facebook for the recent violence with another claim by relatives of several Americans killed in terrorist attacks in Israel.

Facebook says it bars Hamas and other designated terrorist groups. Last month, it asked the court to dismiss the lawsuit, citing a 1996 federal law insulating internet companies from liability for speech by users of their services. Moreover, it argued that Darshan-Leitner could not show that the offending posts had directly caused specific acts of violence.

"Facebook has zero tolerance for terrorism," the company said in a brief. "It condemns terrorist actions, prohibits terrorist content on Facebook and swiftly removes any reported terrorist content."

Israel has pressed Facebook to be more proactive. When the stabbings began in October 2015, Prime Minister Benjamin Netanyahu said, "It has been Osama bin Laden meets Mark Zuckerberg."

After Israel threatened legislation, Facebook sent senior officials, including Joel Kaplan, a former aide to President George W. Bush, to meet with Israeli officials in September, and they agreed to coordinate better.

Israeli security agencies monitor Facebook and send the company posts they consider incitement. Facebook has responded by removing most of them. Ayelet Shaked, Israel's justice minister, said the company had become more cooperative in recent months, although she added that she wanted it to take the initiative rather than wait for complaints.

"I personally really believe in freedom of speech," Shaked said in an interview. "But when you're calling to kill someone or when you're calling for terrorist attacks, it's violence. I'm not going to try to remove the words 'Free Palestine.' But if they're showing how to stab Jews, that should be removed."

Within weeks of meeting with Israeli officials, Facebook suspended the accounts of seven journalists from two Palestinian news agencies said to have extremist ties. The journalists said they had been suppressed for criticizing Israel, which occupies the West Bank, builds settlements on land Palestinians consider theirs and demolishes homes of those tied to terrorists.

Palestinian journalists started an online protest with the hashtag #FBcensorsPalestine. The company reversed course and restored the journalists' accounts.

"Surprisingly, we heard back immediately from Facebook officials, who apologized for our accounts being put on hold and said that it was a technical error on their end," said Hussam al-Zaygh, managing editor of the Shehab News Agency. "The hold on our pages was removed and we haven't experienced any negative reactions from Facebook since this last incident."

Milner, the Facebook policy director, conceded error: "Sometimes we make mistakes, and it's unfortunate that in recent weeks that did involve some accounts of Palestinian journalists. We apologized to the individuals involved."

Another Facebook official traveled to the West Bank last week to assure Palestinian journalists of the company's commitment to free expression.

"We are saying we want free space to talk about our issues here in Palestine and we should have freedom like all over the world," said Iyad al-Refaie, the editorial manager of Al Quds News Network. "Every user of Facebook around the world, he has freedom about what he publishes or not."

Israel does not rely solely on Facebook to crack down on incitement. Authorities have increasingly arrested users who post inflammatory items, and Arab news outlets estimate that hundreds have been charged.

Abudaabes said in an interview that he was surprised to become one of them. The owner of a small photography school and marketing business in Rahat, a largely Bedouin city in the Negev Desert, he said he had used Facebook for nine years without trouble.

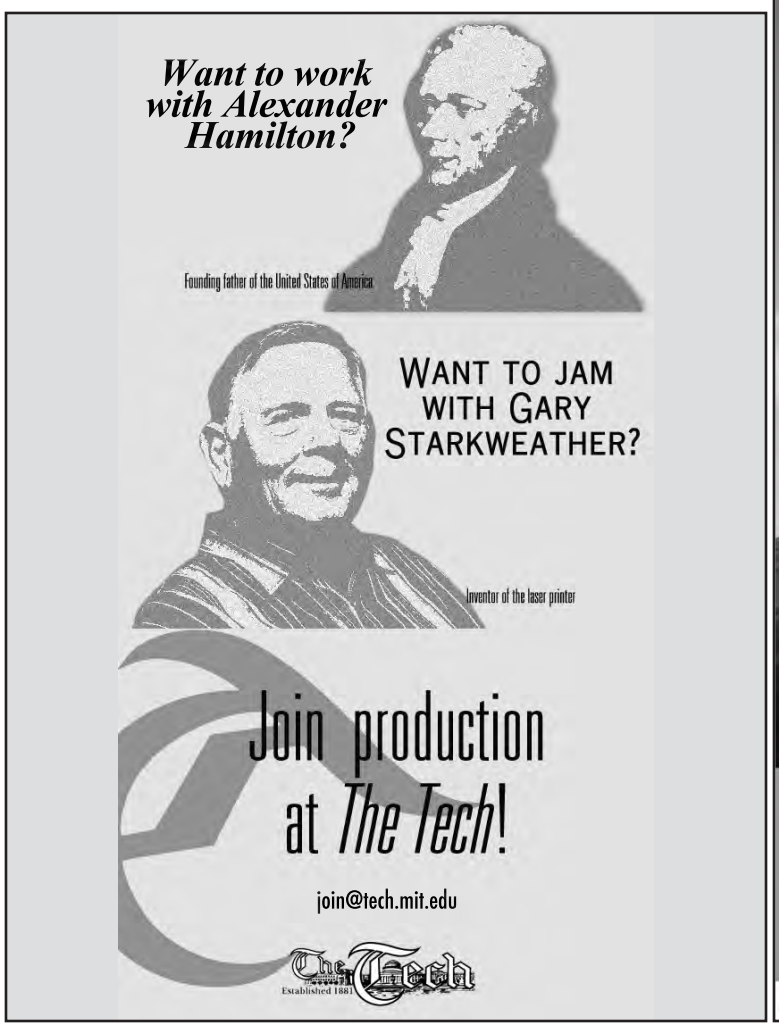
When the recent fires erupted, some Palestinians celebrated on social media, calling them divine retribution against Israel. Abudaabes said that he thought it was wrong to rejoice at others' suffering and that he had set out to mock such sentiments with his Facebook post.

"When I posted that, it was totally against people who celebrate fires, who think that these fires are better for us," he said. "When I post something like that, I didn't think for a minute that it will get me problems with the Israeli government."

But within an hour, he said, the police arrived at his home. "My comment was: 'You know, it's funny you don't understand my post. It's the opposite,'" he recalled. "They didn't want to understand."

He was released on nearly $4,000 bail. Authorities kept his cellphone and laptop, and ordered him to remain home for five days and stay off Facebook for 15 days.

Prosecutors announced Sunday that they would not file charges "because of lack of guilt." For Abudaabes, posting on Facebook came close to playing with fire.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THEATER REVIEW

Revenge is a dish best served cold and with magical rain

The Actors' Shakespeare Project presents *The Tempest*

William Shakespeare's *The Tempest*

The Actors' Shakespeare Project

Brookline's Willet Hall at United Parish

Directed by Allyn Burrows

Running Dec. 1, 2016 - Jan. 8, 2017

NILE SCHOT

Samantha Richert (Ariel) and Marya Lowry (Prospero) star in *The Tempest* by the Actors' Shakespeare Project.

By Ivy Li
STAFF WRITER

Shakespeare's final play, *The Tempest,* centers around Prospero's revenge and eventual decision to forgive.

A jealous brother, Antonio (Thomas Grenon) casts Prospero and Prospero's daughter Miranda (Lydia Barnett-Mulligan) out to sea, usurping the throne of Milan. Prospero and Miranda are stranded on an island, where Prospero learns magic and becomes a powerful sorceress. Years later, when Antonio and his ship happen near the island, Prospero conjures a powerful tempest that leaves the crew shipwrecked, setting Prospero's revenge plot into motion.

Even in the original, Prospero is the core of the narrative. She is the rightful Duchess of Milan, the mother of Miranda, the sister of Antonio, and the master of the spirit Ariel (Samantha Richert). Lowry's charismatic delivery lends power to the character and feels neither too stilted nor overemotional.

It's not the first time that Prospero's gender was switched in an adaptation. In 2010, Julie Taymor's film *The Tempest* cast Helen Mirren as the protagonist (known in the film as Prospera), a role traditionally acted by a man in Shakespeare's original play. Here, the Actors' Shakespeare Project has cast Marya Lowry, who blends the various facets of our protagonist seamlessly and fits naturally into the script.

In contrast to the serious Prospero, the drunk jester Trinculo (Mara Sidmore) and butler Stephano (Michael Forden Walker), who were part of the shipwrecked crew, bring a welcome change to the play. Their acting, especially in their interaction with Caliban (Jesse Hinson), is suitably over-the-top and melodramatic, generating some commendable physical comedy.

In one memorable scene, Trinculo, believing everyone else to be dead, finds the wild Caliban sleeping. Due to exhaustion, Trinculo flops on top of Caliban to take a nap and pulls the covers over. Stephano arrives only to believe that Caliban is a four-legged monster while Caliban believes himself to be possessed by some demonic spirit, unable to get up. The ridiculous situations that the trio get into are inherently comical, but the enthusiasm of Sidmore, Walker, and Hinson take the scenes to another level.

Caliban, the only inhabitant of the island before Prospero arrived and the son of the witch Sycorax, is portrayed here as a wild beast-man, compared to a fish by Trinculo. His visceral snarls and feral movements can be fearful, yet Hinson's excellent portrayal is both humorous and generates sympathy for the character.

Also humorous is the spirit Ariel who serves Prospero in the hopes of becoming free. Like Sidmore and Walker, Richert too delivers humor well. Ariel's antics and giddiness served as suitable contrast to Prospero's character. In the background, the addition of music and lighting effects coupled with Richert's singing ability added an enchanting ambience to Ariel's magic enchantments on the shipwrecked crew.

Perhaps it is a testament to how much these cast members shone, as the other cast members were somewhat forgettable. Despite these shortcomings, this light-hearted adaptation of *The Tempest* had many audience members roaring with laughter and left us with an enjoyable evening.

The set design was both utilitarian and aesthetically pleasing, with LED lights running along ropes that overlooked the stage and a wide V-shaped platform that acted as Antonio's ship and fit naturally into the island. Props were sparse but used well. At certain scenes, cast members would even run through the aisles or sit on the apron stage. This performance in a smaller venue may lack the stunning visuals of larger, high-tech adaptations, but the use of a small stage made the presentation more intimate.

For non-Shakespeare fans, this adaptation may be difficult to follow with the original language. But despite never having read the source material, I could follow the plot through the characters' actions. I found the physical humor to be uproariously comical but the literary humor can be a hit or miss.

The Tempest is currently running from now until Jan. 8, 2017 at Brookline's Willet Hall at United Parish.

CONCERT REVIEW

Mussorgsky's *Pictures at an Exhibition* comes to life

Rob Kapilow's commentary inspires a greater appreciation for music

What Makes It Great? with Rob Kapilow and NEC Philharmonia — Mussorgsky's *Pictures at an Exhibition*

Presented by Celebrity Series of Boston

NEC Jordan Hall

Dec. 2, 2016

By Ray Wang
STAFF WRITER

Imagine walking through an art gallery, dozens of paintings hanging on the walls of the exhibit. Now, imagine those paintings coming to life, the subjects becoming characters in a larger story of your creation, replete with dialogue and detail.

This is the purpose of the 1874 piece *Pictures at an Exhibition*, the most famous work by Russian composer Modest Mussorgsky. In a promenade and ten suites, Mussorgsky journeyed through an exhibit of artwork by his close friend Viktor Hartmann, providing scene upon scene of vivid imagery. At the New England Conservatory's Jordan Hall last Friday, acclaimed music commentator Rob Kapilow guided the audience through this auditory journey, pointing out the story behind every measure. His energetic and stimulating commentary made the work that much more exciting and accessible.

Kapilow was supported by the NEC Philharmonia, comprised entirely of juniors, seniors, and graduate students. He had sections, individuals, or the entire orchestra at his beck and call, ready to play a phrase to back up his words. As if conjuring sound out of thin air, the orchestra started and stopped on a dime, like a recording.

The promenade evokes the sense of Mussorgsky "roving through the exhibition, now leisurely, now briskly in order to come close to a picture that had attracted his attention, and at times sadly, thinking of his departed friend," as Russian critic and friend of Mussorgsky, Vladimir Stasov, commented. Sometimes, the orchestra would settle into the motif, then break it and repeat it higher and louder — representing another picture grabbing Mussorgsky's attention more strongly.

Kapilow noted that many of the suites were actually speech-like, as in the third movement, "Tuileries." He pointed out the flute section's mimicry of children quarrelling in the Tuileries Garden — it's as if the flutes are saying, "look what they're doing to me, tell them they can't do it to me." Then peals of laughter ring out, before the children start complaining again.

Although many of Hartmann's paintings have not survived, the ones that did were projected onto the stage as a backdrop for the commentary. "Ballet of Unhatched Chicks" was inspired by an absurd sketch of two humans in chick costumes, their limbs protruding from an eggshell and their heads adorned with chick masks.

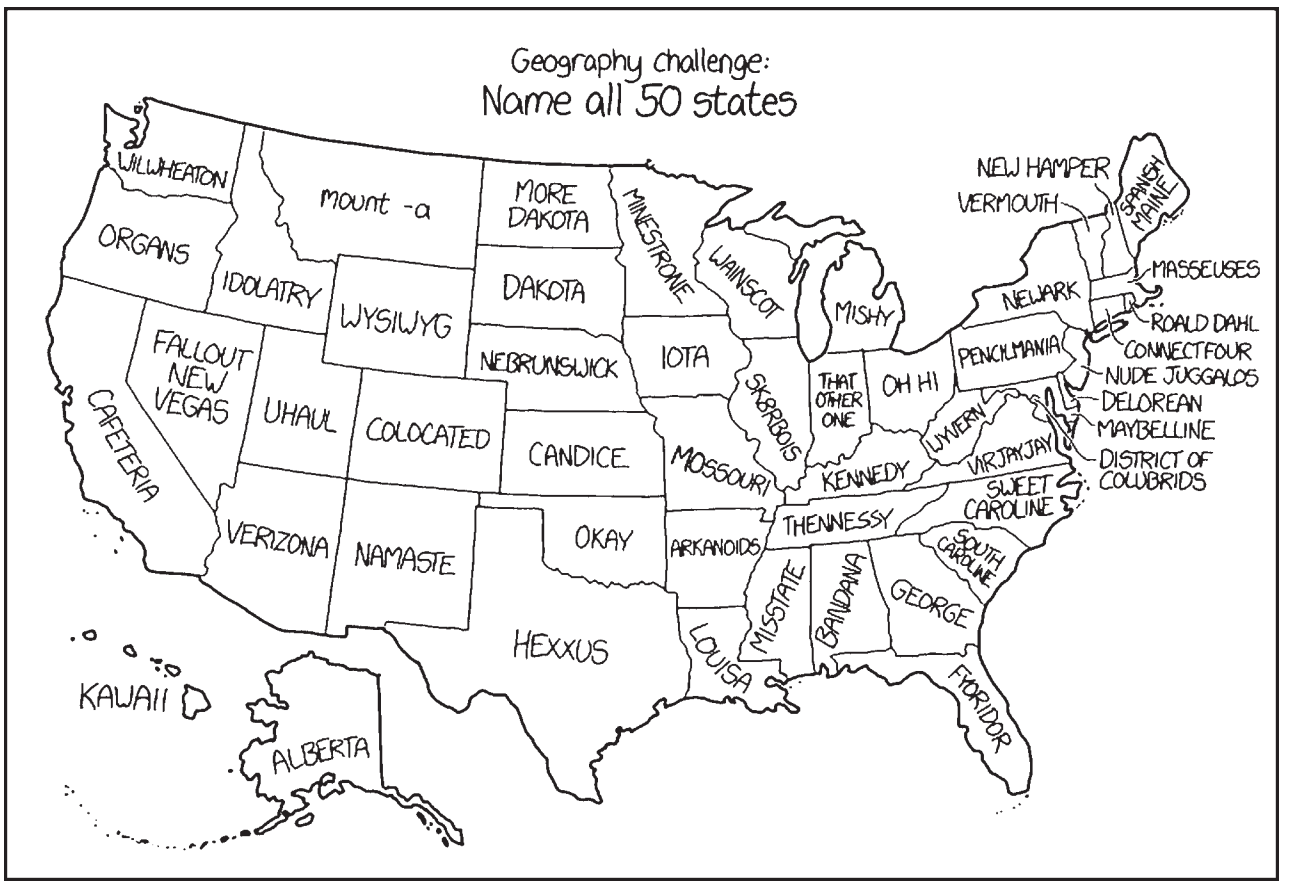
NEC Philharmonia's brass section deserves special commendation. The first trumpet was undeniably impressive — often challenged and emphasized in the arrangement, the student handled the pressure with confidence and perfect tone. The tuba, as well, has a long, lonely stretch of painfully high notes in the fourth movement, "Cattle." He received well-deserved applause for his solo effort.

Kapilow has done so much for music. After years of fostering music appreciation in his "What Makes it Great?" program on NPR, he's no longer on air, but he occasionally gives these performances live. He'll be back in Boston in January, this time for a tour of classic jazz.

FUN FUNFUNFUNF

A WEBCOMIC OF ROMANCE, SARCASM, MATH, AND LANGUAGE
by Randall Munroe

[1767] US State Names



Technically DC isn't a state, but no one is too pedantic about it because they don't want to disturb the snakes.

Paradise

Solution, page 3

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Wash Yoself

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